State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-213-9
Relating to Exemptions Under Section 27156
of the Vehicle Code

VORTECH ENGINEERING, INC.
A-TRIM V-1 GEARCHARGER SYSTEM

Pursuant to the authority vested in the Air Resources Board by Section 27156 of the Vehicle Code; and

Pursuant to the authority vested in the undersigned by Section 39515 and Section 39516 of the Health and Safety Code and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the installation of the A-Trim V-1 Gearcharger System, **designed to output a maximum of 5 psi. on the standard output kits and 8 psi on the high output (H.O.) kits,** with a 2.5 inch inducer diameter, manufactured by Vortech Engineering, Inc., 5351 Bonsai Ave., Moorpark, California 93021 has been found not to reduce the effectiveness of the applicable vehicle pollution control system and, therefore, is exempt from the prohibitions of Section 27156 of the Vehicle Code for those vehicles, except those equipped with on-board diagnostics II (OBD II), listed with corresponding modifications to the OEM engine systems in Exhibit A which is attached hereto and incorporated herein.

This Executive Order is valid provided that the installation of the A-Trim V-1 Gearcharger System will not recommend tuning the vehicle to specifications different from those submitted by Vortech Engineering, Inc.

Changes made to the design or operating conditions of the A-Trim V-1 Gearcharger System, as exempted by the Air Resources Board, which adversely affect the performance of a vehicle's pollution control system shall invalidate this Executive Order.

Marketing of the A-Trim V-1 Gearcharger System using any identification other than that shown in this Executive Order or marketing of the A-Trim V-1 Gearcharger System for an application other than those listed in this Executive Order shall be prohibited unless prior approval is obtained from the Air Resources Board. Exemption of the A-Trim V-1 Gearcharger System shall not be construed as an exemption to sell, offer for sale, or advertise any component of the kit as an individual device.

This Executive Order does not constitute any opinion as to the effect that the use of the A-Trim V-1 Gearcharger System may have on any warranty either expressed or implied by the vehicle manufacturer.

This Executive Order is granted based on comparative intake manifold air pressure testing which was recorded during a Hot-Start 505 LA4 drive cycle in the baseline and modified configuration. However, the Air Resources Board finds that reasonable grounds exist to believe that use of the A-Trim

V-1 Gearcharger System may adversely affect emissions of motor vehicles when operating under conditions outside the parameters of the previously prescribed test procedures. Accordingly, the Air Resources Board reserves the right to conduct additional emission tests, in the future, as such tests are developed, that will more adequately measure emissions from all cycle phases. If such test results demonstrate that the A-Trim V-1 Gearcharger System adversely affects emissions during off-cycle conditions (defined as those conditions which are beyond the parameters of the Cold-Start CVS-75 Federal Test Procedure), this Executive Order shall be effectively rescinded as of the date the test results are validated. Further, if such test results or other evidence provides the Air Resources Board with reason to suspect that the A-Trim V-1 Gearcharger System will affect the durability of the emission control, Vortech Engineering, Inc. shall be required to submit durability data to show that the durability of the vehicle emissions control system is not, in fact, affected and/or that the add-on or modified part demonstrates adequate durability.

In addition to the foregoing, the Air Resources Board reserves the right in the future to review this Executive Order and the exemption provided herein to assure that the exempted add-on or modified part continues to meet the standards and procedures of Title 13, California Code of Regulations, Section 2222, et seq.

THIS EXECUTIVE ORDER DOES NOT CONSTITUTE A CERTIFICATION, ACCREDITATION, APPROVAL, OR ANY OTHER TYPE OF ENDORSEMENT BY THE AIR RESOURCES BOARD OF ANY CLAIMS OF THE APPLICANT CONCERNING ANTI-POLLUTION BENEFITS OR ANY ALLEGED BENEFITS OF VORTECH ENGINEERING, INC.'S A-TRIM V-1 GEARCHARGER SYSTEM.

No claim of any kind, such as "Approved by the Air Resources Board" may be made with respect to the action taken herein in any advertising or other oral or written communication.

Violation of any of the above conditions shall be grounds for revocation of this order. The order may be revoked only after ten day written notice of intention to revoke the order, in which period the holder of the order may request in writing a hearing to contest the proposed revocation. If a hearing is requested, it shall be held within ten days of receipt of the request and the order may not be revoked until a determination after hearing that grounds for revocation exist.

The Bureau of Automotive Repair will be notified by a copy of this order.

Executive Order D-213-8, dated September 16, 1993, is superseded and of no further force and effect.

Executed at El Monte, California, this 25th day of July 1995.

R. B. Summerfield
Assistant Division Chief
Mobile Source Division

Exhibit A

Chrysler Corp.

Part No.	Model Years	Vehicle Make and Model	Engine Size (liters)	Pulley Dia. (inches) Crankshaft	Input
4CB218-060	1991-93	Dodge Dakota	5.2	7.00	3.125
4CB218-060S	1991-93	Dodge Dakota	5.2	7.00	3.125
4CB218-068	1991-93	Dodge Dakota	5.2	7.25	3.125
4CB218-068S	1991-93	Dodge Dakota	5.2	7.25	3.125
4CC218-060	1994	Dodge Dakota	5.2	7.25	3.125
4CC218-068	1994	Dodge Dakota	5.2	7.25	a.125
4CD218-030	1994/95	Dodge Ram	5.2/5.9	7.25	3.125
4CD218-038	1994/95	Dodge Ram	5.2/5.9	7.25	3.125

Exempted Modifications

1. Relocate ignition coil.
2. Replace coolant recovery reservoir.
3. Relocate crankcase vent outlet to air filter cover.
4. Install Gearcharger unit with associated pulleys, new accessory belt, brackets, oil feed and drain, modified intake air ducting incorporating a new air filter cover, and discharge plenum and ducting.
5. Install Fuel management unit (FMU) on fuel return line and connect to intake manifold air pressure source.
6. Install auxiliary fuel pump.

Ford Motor Company

Part No.	Model Years	Vehicle Make and Model	Engine Size (liters)	Pulley Dia. (inches) Crankshaft	Input
4FA218-010	1986-93	Mustang Standard Output	5.0	6.00	3.33
4FA218-018	1986-93	Mustang Standard Output	5.0	6.00	3.33
4FG218-010	1994/95	Mustang Standard Output	5.0	6.50	3.33
4FG218-018	1994/95	Mustang Standard Output	5.0	6.50	3.33

Exempted Modifications

1. Relocate fuel evaporation canister.
2. Relocate Mass Airflow sensor to new air filter cover.
3. Relocate crankcase vent outlet to air filter cover.
4. Relocate alternator and air injection pump aid air control valve.
5. Shorten hose between air injection pump and air control valve.
6. Install Gearcharger unit with associated pulleys, brackets, oil feed drain, and modified intake air ducting incorporating a new air filter cover.
7. Install Fuel Management Unit (FMU) on fuel return line and connect to intake manifold air pressure source.

2. Install Gearcharger unit with associated pulleys, brackets, oil feed drain, and modified intake air ducting incorporating a new air filter cover, and discharge plenum and ducting.
3. Install supplemental fuel injection computer (SFIC) and related hardware including an auxiliary fuel pump, throttle spacer block, fuel pressure regulator, supplemental fuel injectors and associated fuel lines.

General Motors

Part No.	Model Years	Vehicle Make and Model	Engine Size (liters)	Pulley Dia. (inches) Crankshaft	Input
4GF218-060	1988-92	Camaro/Firebird	5.0/5.7	7.50	3.48
4GF218-068	1988-92	Camaro/Firebird	5.0/5.7	7.50	3.48
4GH218-050	1993	Camaro/Firebird	5.0/5.7	7.00	3.33
4GH218-058	1993	Camaro/Firebird	5.0/5.7	7.00	3.33
4GH218-060	1994/95	Camaro/Firebird	5.0/5.7	7.00	3.33
4GH218-068	1994/95	Camaro/Firebird	5.0/5.7	7.00	3.33

Exempted Modifications

1. Fuel evaporation canister may be remotely relocated.
2. Install Gearcharger unit with associated pulleys, brackets, oil feed drain, and modified intake air ducting incorporating a new air filter cover, and discharge plenum and ducting.
3. Install Fuel Management Unit (FMU) on fuel return line and connect to intake manifold air pressure source.
4. Optional Vortech/MSD Boost Timing Unit, P/N 5A001-001, may be used. Designed to retard ignition timing under boost conditions (max adj. is three degrees per pound boost).
5. Install supplemental fuel pump.
6. 1993 models only - replace stock fuel injectors with 24 lbs. injectors.

General Motors

Part No.	Model Years	Vehicle Make and Model	Engine Size (liters)	Pulley Dia. (inches) Crankshaft	Input
4GV218-078	1992/93	Corvette	5.7	7.00	3.125
4GV218-088	1994/95	Corvette	5.7	7.00	3.125

Exempted Modifications

1. Fuel evaporation canister may be remotely relocated.
2. Install Gearcharger unit with associated pulleys, brackets, oil feed drain, and modified intake air ducting incorporating a new air filter cover, and discharge plenum and ducting.
3. Install Fuel Management Unit (FMU) on fuel return line and connect to intake manifold air pressure source.
4. Optional Vortech/MSD Boost Timing Unit, P/N 5A001-001, may be used. Designed to retard ignition timing under boost conditions (max adj. is three degrees per pound boost).
5. Install supplemental fuel pump.

Ford Motor Company

Part No.	Model Years	Vehicle Make and Model	Engine Size (liters)	Pulley Dia. (inches) Crankshaft	Input
4FB218-040	1986-95	F-Series Truck	7.5	7.00	2.875
4FB218-048	1986-95	F-Series Truck	7.5	7.00	2.875

Exempted Modifications

1. Modify Air Bypass Tube.
2. Install Gearcharger unit with associated pulleys, brackets, oil feed drain, and modified intake air ducting incorporating a new air filter cover.
3. Install Fuel Management Unit (FMU) on fuel return line and connect to intake manifold air pressure source.
4. Optional Vortech/MSD Boost Timing Unit, P/N 5A001-001, may be used. Designed to retard ignition timing under boost conditions (max adj. is three degrees per pound boost).
5. Install supplemental fuel pump.
6. Replace thermostat housing.

Ford Motor Company

Part No.	Model Years	Vehicle Make and Model	Engine Size (liters)	Pulley Dia. (inches) Crankshaft	Input
4FD218-050	1991-94	Ford Explorer/Ranger	4.0	Stock	2.87
4FD218-058	1991-94	Ford Explorer/Ranger	4.0	Stock	2.87

Exempted Modifications

1. Modify Air Bypass Tube.
2. Install Gearcharger unit with associated pulleys, brackets, oil feed drain, and modified intake air ducting incorporating a new air filter cover.
3. Install Fuel Management Unit (FMU) on fuel return line and connect to intake manifold air pressure source.
4. Optional Vortech/MSD Boost Timing Unit, P/N 5A001-001, may be used. Designed to retard ignition timing under boost conditions (max adj. is three degrees per pound boost).
5. Install supplemental fuel pump.

General Motors

Part No.	Model Years	Vehicle Make and Model	Engine Size (liters)	Pulley Dia. (inches) Crankshaft	Input
4GB218-050	1990-95	Trucks (TBI)	5.0/5.7	7.50	3.125
4GB218-058	1990-95	Trucks (TBI)	5.0/5.7	7.50	3.125
4GC218-090	1988-93	Trucks (TBI)	7.4	7.50	2.875
4GC218-098	1988-93	Trucks (TBI)	7.4	7.50	2.875
4GG218-090	1994/95	Trucks (TBI)	7.4	7.50	2.875
4GG218-098	1994/95	Trucks (TBI)	7.4	7.50	2.875

Part No.	Model Years	Vehicle Make and Model	Engine Size (liters)	Pulley Dia. (inches) Crankshaft	Input
4FA218-030	1993	Mustang Cobra	5.0	6.88	3.33
4FA218-038	1993	Mustang Cobra	5.0	6.88	3.33
4FA218-040	1986-93	Mustang H.O.	5.0	6.88	3.33
4FA218-048	1986-93	Mustang H.O.	5.0	6.88	3.33
4FG218-020	1994/95	Mustang H.O.	5.0	7.00	3.33
4FG218-028	1994/95	Mustang H.O.	5.0	7.00	3.33

Exempted Modifications

1. Relocate fuel evaporation canister.
2. Relocate Mass Airflow sensor to new air filter cover.
3. Relocate crankcase vent outlet to air filter cover.
4. Relocate alternator and air injection pump and air control valve.
5. Shorten hose between air injection pump and air control valve.
6. Install Gearcharger unit with associated pulleys, brackets, oil feed drain, and modified intake air ducting incorporating a new air filter cover.
7. Install Fuel Management Unit (FMU) on fuel return line and connect to intake manifold air pressure source.
8. Install supplemental fuel pump.
9. Optional Vortech/MSD Boost Timing Unit, P/N 5A001-001, may be used. Designed to retard ignition timing under boost conditions (max adj. is three degrees per pound boost).

Ford Motor Company

Part No.	Model Years	Vehicle Make and Model	Engine Size (liters)	Pulley Dia. (inches) Crankshaft	Input
4FC218-030	1987-95	F-Series Truck	5.8	6.50	2.875
4FC218-038	1987-95	F-Series Truck	5.8	6.50	2.875
4FC218-040	1993-95	Lightning Truck	5.8	6.50	2.875
4FC218-048	1993-95	Lightning Truck	5.8	6.50	2.875
4FE218-070	1987-95	F-Series Truck	5.0	6.50	2.875
4FE218-078	1987-95	F-Series Truck	5.0	6.50	2.875

Exempted Modifications

1. Install Gearcharger unit with associated pulleys, brackets, oil feed drain, and modified intake air ducting incorporating a new air filter cover.
2. Install Fuel Management Unit (FMU) on fuel return line and connect to intake manifold air pressure source.
3. Optional Vortech/MSD Boost Timing Unit, P/N 5A001-001, may be used. Designed to retard ignition timing under boost conditions (max adj. is three degrees per pound boost).
4. Install supplemental fuel pump.